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STUDY PLAN

MARINE POWER & EQUIPMENT PRE-REMOVAL

ENVIRONMENTAL SERVICES DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY
1200 SIXTH AVENUE
SEATTLE WASHINGTON 98101

USEPA SF



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4/8/87

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PROJECT NAME: MARINE POWER & EQUIPMENT PRE-REMOVAL SURVEY

PROJECT MANAGER: Michael F. Matta

FIELD OPERATIONS: Michael F. Matta, Michael Watson, Jim Hileman

QA OFFICE CONCURRENCE:

DATE: 4/8/87

ESD PEER REVIEW:

DATE:

PROJECT NUMBER: TEC-222B

ACCOUNT NUMBER: AFEB3A

LABORATORY DESIGNATED: XXX EPA CLP PRIVATE

SAMPLE NUMBERS ASSIGNED: from 87150000 to 87150009

SAMPLE SCHEDULE AND MILESTONES:

ACTIVITY	DATE
Field Sampling	4/9, 1987
Sample Analysis	4/23/87
Data Report	4/25/87

SAMPLE MANAGEMENT OFFICE REVIEW:

DATE:

4-9-87

PROJECT DESCRIPTION AND SITE LOCATION:

There are two sites of concern in this investigation: the Duwamish river MP&E facility, and the MP&E facility on the north shore of Lake Union. Both of these sites are ship repair facilities and the areas adjacent to these facilities have been found to contain sandblasting debris under water in significant amounts as a result of work practices there. On dive surveys which were conducted on Feb. 25 and Apr. 6, divers did not find any sandblasting debris in significant accumulations at the Duwamish River facility, but the Lake Union facility needs further study to determine the impacts that dredging may have on ambient conditions near the site, if the sandblasting debris remaining there is to be removed.

PROJECT MEASUREMENT OBJECTIVES:

To determine the impact produced by removal of the sediments at the MP&E facilities. Field measurements will include water temperature, conductivity, and pH.

SAMPLE RATIONALE AND NETWORK DERIVATION:

The sample areas were selected as indicated in figure 1 because of their proximity to areas where sandblasting debris was found on a previous survey.

ANALYTICAL DATA:

# OF SAMPLES	PARAMETER	QA SAMPLES	MATRIX	CONTAINER	HOLDING TIME	PRESERVATION
1	METALS*	1	WATER	1 Gal.POLY	2days	ice
1	METALS†	1	SEDIMENT	.5 Gal.Glas	2weeks	ice
1	Particle size	-	SEDIMENT	.5 Gal.Glas	2weeks	ice

* - Total and Dissolved for water, also water - sediment elutriate.

†- As, Cd, Cr, Cu, Fe, Pb, Hg, Sn, Zn Total

DATA QUALITY OBJECTIVES:

PARAMETER	METHOD	DETECTION LIMITS	PRECISION	ACCURACY	COMPLETENESS
METALS	EPA Method	PER METH	PER METHOD	95%	95%
PARTICLE SIZE	EPA Method (C of Engineers ref)	PER METH * * *	PER METHOD * * *	95% * * *	95% * * *
	*	*	*	*	*

SAMPLING PROCEDURES TO BE USED:

A number of sediment grabs will be collected from the sampling area with a coring device and VanVeen grab sampler and then composited into a single sample which would represent the area. Each individual grab sample will be combined in a pre-cleaned stainless steel bucket and stirred with a cleaned stainless steel spoon until the sample is homogenous. This homogenate will then be split two ways: One for total metals analysis, and one for Particle size analysis. Water samples will be collected near the surface with a 1-gallon pre-cleaned glass container and then transferred to 1-gallon cubitainers and iced for shipment to the EPA lab.

SAMPLE CUSTODY AND DOCUMENTATION:

Samples will be in the custody of EPA personnel. Region 10 Chain of Custody procedures and forms will be used. Custody seals will be placed on all shipping containers.

CALIBRATION PROCEDURES AND FREQUENCY:

Field measurements of conductivity, temperature, and pH will be made before collecting the samples. These measurements will be made at mid-water column in the sampling area. The conductivity instrument has been calibrated prior to

use, and the pH instrument will be calibrated in the field with buffer solutions before and after each measurement.

Laboratory calibration procedures described in the Regional Laboratory, standard operative protocols for the analysis of water, sediment and oil will be used.

LABORATORY DATA REDUCTION/QA REVIEW:

The Regional laboratory will have total responsibility for data generation and reporting. This will include examination of raw data. Data will be put into the laboratory Data Management System.

FIELD DATA REDUCTION/QA REVIEW:

Field notes, photos, and field sample data sheets will be used to document survey sample activities.

REPORTS (AS REQUIRED):

ESD will generate a data and sampling report from the analytical results.

SYSTEM AND PERFORMANCE AUDITS:

None requested.

SCHEDULED:

CONDUCTED:

QA REPORT TO MANAGEMENT:

None requested.

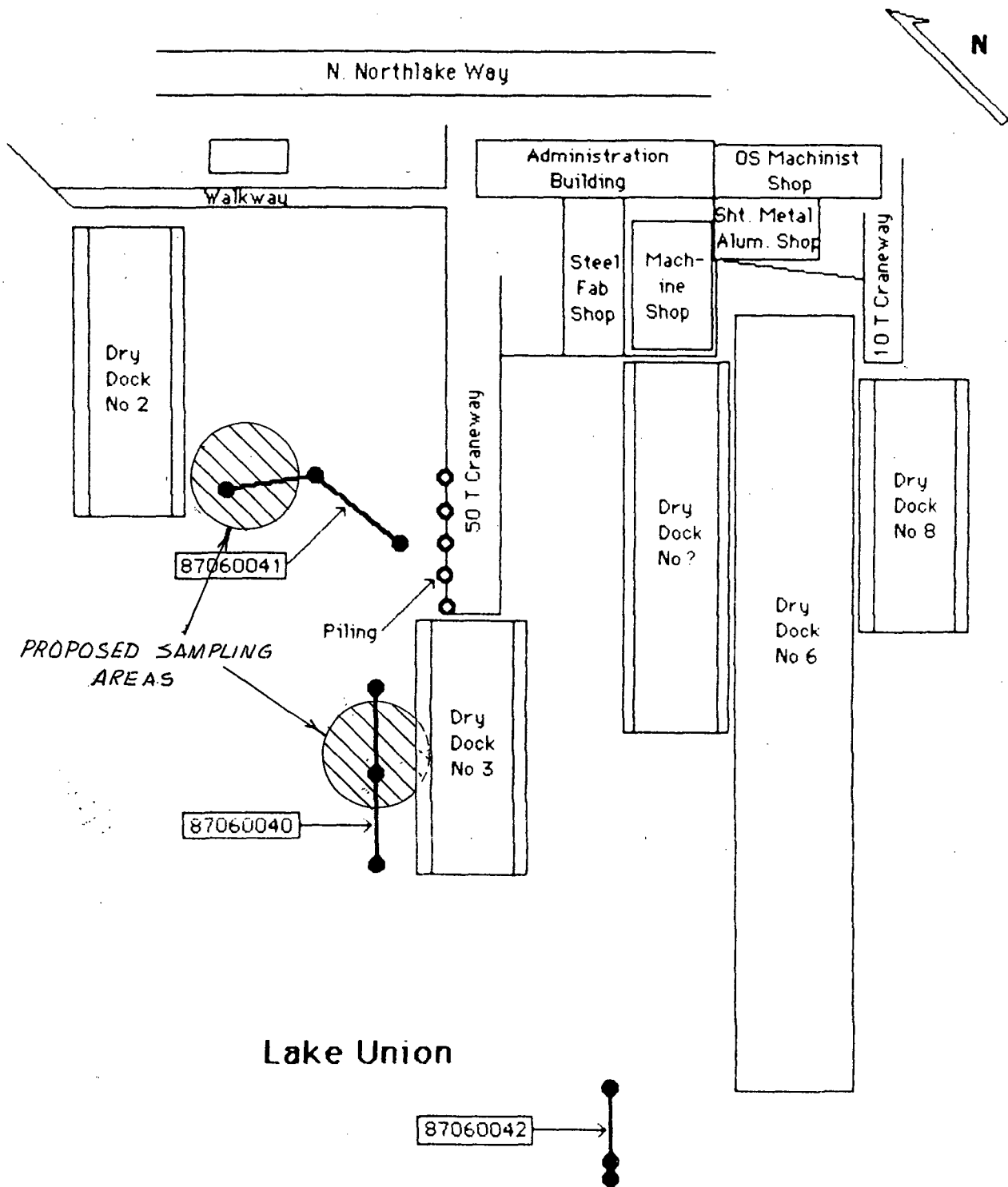
SAFETY:

Gloves, life vests and Steel-toe boots will be worn by personnel handling the dredge and collecting samples. No acute toxic respiratory exposure exists for sampling activities, so no respiratory protection is necessary.

MARINE POWER & EQUIPMENT COMPANY

1441 North Northlake Way, Seattle, Washington

February 5, 1987



● - Sample Grab Location
Scale Is Estimated

FIGURE 1